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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,113

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B. Colleen Kargel

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EXAMINER

GWARTNEY, ELIZABETH A

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,113	Applicant(s) KARGEL ET AL.	
	Examiner Elizabeth Gwartney	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060801</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-18, 20-21, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Regarding claims 1 and 13, the term "substantially" renders the claims indefinite because it is not clear what is meant by substantially or how denatured or inactivated the enzyme has to be in order to be considered "substantially".
4. Claim 20 recites the limitation "the avocado onion and garlic mixture" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 21 recites the limitation "the containers" in line 1. There is insufficient antecedent basis for this limitation in the claim.
6. Regarding claim 29, the term "minimal" renders the claim indefinite because it is not clear what is meant by minimal.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-17 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US 6,358,555) in view of Rogers et al. (US 4,701,330).

Regarding claims 1-5, 7-8 and 12, Takahashi discloses a method of processing avocado meat comprising of heating avocado pieces in water that is at a temperature around 100°C (i.e. around boiling) and contains baking powder for 4-5 minutes (C4/Example 1/L27-43, C5/Example 2/L7-8).

Since the heating temperature, around 100°C, disclosed by Takahashi, is identical to that presently claimed, it is clear that it would intrinsically be sufficient to substantially denature native degradative enzymes.

Given that Takahashi disclose avocado identical that that presently claimed, it is clear that the avocado would intrinsically contain the native enzymes recited.

While Takahashi discloses that the heating water contains baking powder, the reference does not explicitly disclose that the water environment is alkaline with a pH greater than 9.

Rogers et al. teach a method for preserving the green color of vegetables comprising immersing blanched vegetables in an alkaline solution having a pH of 7.2 to 9.5 for a time ranging from 5 to 30 minutes (C1/L7-12, C2/L55-57). Rogers et al. teach that chlorophyll is responsible for the green color in vegetables (C1/L16-17). Rogers et al. also teach that it is known that an acid environment causes the breakdown of chlorophyll, hence, the loss of green color while treating green vegetables with an alkaline solution will preserve green color (C1/L18-20, C2/L62-64).

Takahashi and Rogers et al. are combinable because they are concerned with the same field of endeavor, namely, the preservation of fresh produce. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an alkaline environment (i.e. pH 7.2-9.5), as taught by Rogers et al., in the boiling water of Takahashi for the purpose of preserving the green color of the avocado (i.e. preventing the acidic breakdown of chlorophyll).

Regarding claim 6, modified Takahashi discloses all of the claim limitations as set forth above. While Takahashi discloses that the peel is removed from the avocado (C3/L61-62), the reference fails to disclose that the avocado skin is removed prior to heating the pieces in water. However, the selection of any order of performing process steps is *prima facie* obvious in the

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absence of new or unexpected results (*In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)).

Regarding claim 9, modified Takahashi disclose all of the claim limitations as set forth above and that heating comprises steaming the avocado (C2/L15-16, Figure 3/Step 4).

Regarding claims 10-11, modified Takahashi discloses all of the claim limitations as set forth above and that the avocado meat is cut in half, pitted, optionally cut into 3 or more pieces and skinned (C3/L28-34, C3/L61-62).

Regarding claims 13-16, Takahashi discloses a method of treating avocado meat comprising the steps of pitting and heating the avocado in water that is at a temperature around 100°C (i.e. around boiling) and contains baking powder for 4-5 minutes (Figure 1/Step 2, C4/Example 1/L27-43, C5/Example 2/L7-8).

Since the heating temperature, around 100°C, disclosed by Takahashi, is identical to that presently claimed, it is clear that it would intrinsically be sufficient to substantially inactivate enzymes.

While Takahashi discloses that the heating water contains baking powder, the reference does not explicitly disclose that the water environment is alkaline with a pH greater than 9.

Rogers et al. teach a method for preserving the green color of vegetables comprising of immersing blanched vegetables in an alkaline solution having a pH of 7.2 to 9.5 for a time ranging from 5 to 30 minutes (C1/L7-12, C2/L55-57). Rogers et al. teach that chlorophyll is responsible for the green color in vegetables (C1/L16-17). Rogers et al. also teach that it is known that an acid environment causes the breakdown of chlorophyll, hence, the loss of green

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color while treating green vegetables with an alkaline solution will preserve green color (C1/L18-20, C2/L62-64).

Takahashi and Rogers et al. are combinable because they are concerned with the same field of endeavor, namely, the preservation of fresh produce. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an alkaline environment (i.e. pH 7.2-9.5), as taught by Rogers et al., in the boiling water of Takahashi for the purpose of preserving the green color of the avocado (i.e. preventing the acidic breakdown of chlorophyll).

Regarding claim 17, modified Takahashi disclose all of the claim limitations as set forth above and that the heating step comprises steaming (C2/L15-16, Figure 3/Step 4).

Regarding claim 29, Takahashi discloses a method of processing avocado comprising the steps of pitting the avocados by cutting the avocados in half and heating avocado pieces in water that is at a temperature around 100°C (i.e. around boiling) and contains baking powder for 4-5 minutes (Figure 1/Step 2, C4/Example 1/L27-43, C5/Example 2/L7-8).

While Takahashi discloses that the heating water contains baking powder, the reference does not explicitly disclose that the water environment is alkaline with a pH greater than 8.

Rogers et al. teach a method for preserving the green color of vegetables comprising of immersing blanched vegetables in an alkaline solution having a pH of 7.2 to 9.5 for a time ranging from 5 to 30 minutes (C1/L7-12, C2/L55-57). Rogers et al. teach that chlorophyll is responsible for the green color in vegetables (C1/L16-17). Rogers et al. also teach that it is known that an acid environment causes the breakdown of chlorophyll, hence, the loss of green

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color while treating green vegetables with an alkaline solution will preserve green color (C1/L18-20, C2/L62-64).

Takahashi and Rogers et al. are combinable because they are concerned with the same field of endeavor, namely, the preservation of fresh produce. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an alkaline environment (i.e. pH 7.2-9.5), as taught by Rogers et al., in the boiling water of Takahashi for the purpose of preserving the green color of the avocado (i.e. preventing the acidic breakdown of chlorophyll).

Given that modified Takahashi disclose heating the avocados as presently claimed, it is clear that the avocados would intrinsically display less bitter taste.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US 6,358,555) in view of Rogers et al. (US 4,701,330) as applied to claim 13 above, and further in view of Andonian et al. (US 4,374,153).

Regarding claim 18, modified Takahashi discloses all of the claim limitations as set forth above but fails to disclose that the alkaline environment is accomplished by adding a chemical comprising sodium tetraphosphate.

Andonian et al. teach treating onions with an effective amount of base to inhibit discoloration or "pinkening" that occurs when onions are cut (Abstract, C1/L8-13). Andonian et al. teach that the surface of the onions must be at a pH of 7-8 or greater to effectively suppress pigment formation (C4/L54-57). Andonian et al. also teach that sodium tetraphosphate is used to adjust the pH of the cut onions (C4/L22-40).

Modified Takahashi and Andonian et al. are combinable because they are concerned with the same field of endeavor, namely, the preservation of fresh produce. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used sodium tetraphosphosphate, as taught by Andonian et al., to accomplish an alkaline environment for the heating water of modified Takahashi, because doing so would amount to nothing more than a use of a known base for its intended use in a known environment to accomplish entirely expected results as well as inhibit discoloration.

12. Claims 19-23 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brito (US 5,871,794) in view of Takahashi (US 6,358,555) and Rogers et al. (US 4,701,330).

Regarding claims 19 and 25-26, Brito discloses a method of manufacturing guacamole comprising the steps of preparing avocado by pitting and peeling (C3/L33-34), macerating the avocado (i.e. cutting into small pieces and mixing - C3/L35-41) and adding flavoring ingredients and tomatillo (i.e. oxidation inhibitor) to the mixed avocado (C2/L67-68, C3/L58-59, C3/L2-4).

While Brito discloses preparation of mixed avocado, the reference does not explicitly disclose heating under alkaline conditions of greater than pH 8.

Takahashi teaches a method of processing avocado meat comprising of heating avocado pieces in water or steam for 4-5 minutes (Figure 1/Step3, Figure 3/Step 4). Takahashi teaches that the heat treated avocados maintain their original good taste and do not discolor (C1/65-C2/L3).

Rogers et al. teach a method for preserving the green color of vegetables comprising of immersing blanched vegetables in an alkaline solution having a pH of 7.2 to 9.5 for a time

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ranging from 5 to 30 minutes (C1/L7-12, C2/L55-57). Rogers et al. teach that chlorophyll is responsible for the green color in vegetables (C1/L16-17). Rogers et al. also teach that it is known that an acid environment causes the breakdown of chlorophyll, hence, the loss of green color while treating green vegetables with an alkaline solution will preserve green color (C1/L18-20, C2/L62-64).

Brito, Takahashi and Rogers are combinable because they are concerned with the same field of endeavor, namely preservation of produce based foods. It would have been obvious to one of ordinary skill in the art to have heated the avocado pieces, as taught by Takahashi, under alkaline conditions of greater than pH 8, as taught by Rogers, for the purpose of maintaining good avocado flavor and preserving the green color of the avocado.

Regarding claims 20-21, modified Brito disclose all of the claim limitations as set forth above. Further, Brito discloses placing the avocado mixture into storage containers, sterilizing packaged avocado mixture and sealing the containers (C4/L28-37).

Regarding claims 22 and 28, modified Brito discloses all of the claim limitations as set forth above and disclose a guacamole product (Abstract).

Regarding claim 23, modified Brito discloses all of the claim limitations as set forth above. While Brito disclose adding flavoring ingredients the reference does not explicitly disclose that the flavoring agents are added before the macerating step. However, the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results (*In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946)).

Regarding claim 27, modified Brito discloses all of the claim limitations as set forth above. Brito also discloses that the flavoring ingredients comprise onion (C3/L60). Brito also

discloses that the choice of flavoring ingredients and respective amounts is determined largely by individual taste. Given that garlic is a known ingredient in guacamole, it would have been obvious to one of ordinary skill in the art to have included garlic as a flavoring ingredient in the avocado mixture of modified Brito.

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brito (US 5,871,794) in view of Takahashi (US 6,358,555) and Rogers et al. (US 4,701,330) as applied to claim 19 above, and further in view of LaBell ("Glycerine prolongs shelf life").

Regarding claim 24, modified Brito discloses all of the claim limitations as set forth above. Brito is silent with regards to adding glycerol.

LaBell teaches the use of glycerine (i.e. glycerol) in food products (p.1/all paragraphs). LaBell teaches that glycerine is larger than water molecules and excludes water - glycerine helps reduce water activity and prolong shelf life (p.1/P3-4).

Modified Brito and LaBell are combinable because they are concerned with the same field of endeavor, namely, food preservation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included glycerol, as taught by LaBell, in the packaged avocado mixture of modified Brito for the purpose of reducing water activity and prolonging the shelf life of product.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Clausi et al. (US 4,814,193) disclose a process for reducing the microbial population on the surface of fruits and vegetables consisting of contacting the food material with an acidic pH solution having a temperature of 40-100°F followed by transferring the food material to a second aqueous medium having a basic pH and a temperature of 40-100°F. However, there is no disclosure of treating at temperatures in excess of 71°C or of specifically treating an avocado.
- Beck (US 5,389,389) discloses a method for treating produce to minimize enzymatic browning where produce is heated to temperatures of 70°F to 575°F , however, there is no disclosure of keeping the produce in an environment having a pH of greater than 8.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gwartney whose telephone number is (571) 270-3874. The examiner can normally be reached on Monday - Thursday; 7:30AM - 5:00PM EST, working alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. G./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794